

FUEL CELLS

The following questions were submitted prior to and subsequent to the bidder's conference and convey clarifications and Q&A discussed at the bidder's conference of Dec. 3, 2001. Questions are in black followed by responses in red. These should be reviewed in addition to the red amended changes in the RFB bid document also issued 12/17/01.

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| <ol style="list-style-type: none"> 1. Since it is not certain that the Authority will actually purchase fuel cell units on the proposed 2002-2005 schedule, on which respondents are likely to make forward pricing commitments, will the Authority accept pricing variances that reflect actual volume purchases at the time the orders are made? As long as the pricing is lower than the original pricing commitment. Exhibit A for turnkey and Exhibit H Equipment Schedule provides for projections of volume, price over time. Specify assumptions for projections. 2. If a manufacturer's 5-year warranty covers only repair or replacement of component parts, and does not include labor, does a vendor/contractor respondent have to provide a similar fixed price service contract during the first five years of the project, or will a standard fuel cell customer service agreement suffice? It could. It depends on what the standard agreement covers. See Section 2.2 RFB Issued 12/17/01 for clarified language. 3. Will downtime due to shipping delays, manufacturing delays or other extenuating circumstances count against calculated availability? The individual order will establish boilerplate including force majeure delivery exceptions at the RFP stage. 4. Please define the term "95% availability" for this RFB? Monthly, annually, programmatically, etc.? See Section 2.4, page 7 for clarification. |
| <ol style="list-style-type: none"> 1. If known, what size(s) of fuel cell systems are desired? If not known, what is the estimated range of fuel cell kilowatt sizes that will be purchased? Expect to purchase fuel cells in a wide range of sizes –identified through current and ongoing assessments – not yet determined. 2. Based upon the request for bidders to demonstrate a volume-pricing discount, how will the bids be evaluated to take this variable into account? Our intention is to be as inclusive as possible, but price will be a primary factor. 3. Qualifications, Experience and References - Must the lead developer have previous fuel cell system experience? Does a lead developer that also acts as the installing contractor qualify if they are relying on the experience and expertise of the fuel cell manufacturer for installation experience? The buyer must have verifiable confidence in all parties. 4. Is there a desired project length, from Notice to Proceed? No, unknown. |
| <ol style="list-style-type: none"> 1. Section 1.1. In the fourth paragraph there is mention of "[a] n expert technical panel" that will assist the Authority in the evaluation of the bids and the bidders. Who will be on this panel and how will they be selected? What will be their scope of evaluation, i.e., will they evaluate the science and technology, performance, cost, etc.? The list of voluntary experts will be issued the day after bids are submitted and they will provide directed assistance with science, technology, and market expertise from specific questions developed by the Authority. They will not provide pass or fail evaluation. The panelists are subject to Ex Parte restrictions. 2. Section 1.1. Under what conditions or circumstances will the state reopen the eligibility list and place additional companies on it? Generally, the bid process would be re-opened for new technology evaluation or capacity/project needs, but in as fair and equitable a process as possible to mitigate gaming or unfair advantage. |

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3. Section 1.3. When the Authority makes the statement "[t]he Authority expects that the installed fuel cell will be priced at a level that will allow the agencies to recover their cost over their useful life at the price the State would otherwise pay for electricity," does the Authority intend that the units will be competitive with the power that could be purchased from the grid? If so, would it be an absolute bar from inclusion on the list if the product cannot compete on this basis? If so, what exactly are the factors determining whether or not a product meets this guideline? Have you information of any fuel cell systems that would qualify under this criterion? We understand the need to recognize financial feasibility, but the fuel cell industry generally is marketing to "early adopters," not the mass market, and the industry's prices reflect that reality. **The Authority's source of funding requires revenue streams equal to or greater than debt service (total project costs, terms and cost of funds, cost-effective life cycle, other sources of project funding, and utility line item (grid cost)). Procurement, contracts, and the financing and economic modeling will be done on a portfolio basis and will come from the volume of capacity assessed for state and local projects.**
4. Section 2.1. In the fourth paragraph the Authority states that there will be a "preference" given to a contractor who manufactures or assembles its product in the State of California. What is the nature of that "preference" and what constitutes "manufacturing or assembling" in the State? That is, how much of the product need be assembled (or how many person-hours spent) in the state to qualify for the preference? Also, would you clarify what you mean by "and making available for sale in California an equivalent amount of fuel cells each year of their awarded contract at a price not to exceed that paid by the State." Does a non-California manufacturer/assembler who makes available the same number of fuel cells to the public for the same price as that which it sells to the State get this "preference?" **This was an old reference in a draft version. Only current State contracting preferences noted in Sections 2.6, 3.3.4, and 5.15 apply.**
5. Section 2.1. In the sixth paragraph the Authority refers to the California Stationary Fuel Cell Collaborative and the demonstration programs the Collaborative is developing. The Authority also refers to "conditions of greater risk sharing than that acceptable to the Authority." What are those conditions? Also, will the Authority be involved in these demonstration programs? If not, which California agencies will be involved? **These conditions have not been established and will be instructed in part by what is learned through this solicitation and subject to the host-sites' requirements. They would likely be identified in project RFP. The exact involvement with demonstration projects is unknown, but we will rely on the collaboration of the ARB and Fuel Cell Collaborative to help direct.**
6. Section 2.2. We appreciate that some flexibility was provided in this section regarding what constitutes a warranty or service agreement, but are still very troubled over the five-year term. Is the Authority stating that five- year warranties are standard for the industry or is this an assumption? Would you provide more definition around the five-year warranty requirement or its equivalent service agreement? Since virtually all fuel cell systems are functionally obsolete before five years, would you consider a "service agreement" that included "swapping out" for new generation units? We certainly appreciate the need to have a reliable fuel cell system, but hope that the words of the RFB do not inadvertently narrow the range of products available for state agencies to solicit in an RFP. **Clarification already cited – refer to Section 2.2.**
7. Will state agencies be providing a pool of talent to train for maintenance and operations? Also, is the fourth bullet point actually the conclusion of the phrase started in the third bullet point? **Yes and yes.**
8. Section 2.2. Regarding the Turnkey Guidelines, can we in addition to the assumptions listed, provide a pricing case that assumes one or more of the site preparation assumptions are not valid? It has been our experience that sites are rarely in an ideal state for installation. **Generic site data amended – see Section 2.2, page 5.**
9. Section 2.4. What duration will the Authority require for the service contract? **Submit what your terms would be.**
10. Sections 2.6. Regarding EZA, LAMBRA, TACPA, and SBPCA. Since we do not know the location of installation of fuel cell systems, we do not know if we will be eligible or required to participate in these programs. Can we instead state an intent to use these programs where applicable

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and appropriate? Usable only in the RFP stage. Labor time includes the manufacturing process. Do provide as much information as possible in RFB stage, including any licenses and/or known subcontractors for pre-evaluation.

11. Section 3.3.6 - The Authority asks for inclusion of "expected periodic investments (such as stack replacements) required to keep the unit functioning to specifications for 20 years" and for degradation rates for up to 30 years." Is the Authority expecting these units to last for 20 to 30 years? Tell us the projected life cycles and degradation and/or replacement data for the units bid under your response and any assumptions or factors impacting the projections.

12. Exhibit G. Are manufacturers expected to register/qualify as a California contractor or can we enlist the services of a California company? You can enlist a CA licensed partner as part of your team bid proposal.

13. General. Will the state pursue Federal buy down dollars for units installed? If so, should the prices quoted reflect this? It is not yet known what buy down or other funding may be used in installed projects. All bids should reflect prices without any additional incentives, unless an ongoing source of funding that buys down your costs in manufacturing, etc. – a competitive, guaranteed price component.

1. Separate pricing per time period and the need for pricing to allow agencies to recover the cost of the fuel cell installation from energy savings over useful life of equipment: Exhibit A and H in the RFB document dated November 9, 2001 ask for pricing information for each one of the time periods outlined in the bid document (2002, 2003 and 2004/05). Cost/volume relationship would dictate lower prices in year 2004/05 based on cumulative volume purchases prior to that time period and size of purchases for that specific time period than prices offered in year 2002 based on limited purchase volume commitment and available capacity from suppliers. At the same time, Section 1.3 of RFB states that the Authority's expects that the installed fuel cell will be priced at a level that will allow the agencies to recover their cost over their useful life at the price the State would otherwise pay for electricity. How does the Authority intent to mitigate first cost hurdles faced by agencies intending to do projects in 2002, as compared to more favorable pricing conditions likely to result in 2004/05-time period? How the Authority will mitigate any early-year costs through a portfolio approach to our financial analysis, post-RFB evaluation, and evaluated as the number of potential sites is identified. Would the authority make MULTI-YEAR VOLUME PURCHASE COMMITMENTS TO SUPPLIERS IN 2002 that will enable suppliers to forward price fuel cell equipment sold in years 2002 and 2003? Clearly, volume prices quoted in 2002 will likely be tied to that which is quoted for 2003 and beyond. We acknowledge what industry has said with regard to volume and price over time. The intent is to assess as much as possible anticipated installed capacity at the time RFPs are issued, and match the intended commitment to such contracts moving forward (analyzed against financial feasibility and revenue streams).

2. Definition of available capacity for installation by year ending September 30th: Section 1.2 of the RFB dated November 9th, 2001 indicates that the Authority hopes to ENTERTAIN ORDERS FOR AS MUCH AS 20MW in 2002...and 300 MW in 2004/2005. Exhibit A on the other hand asks bidders to forecast aggregate capacity that could be installed by September 30th of each year. In forecasting maximum aggregate capacity that could be installed each year ending on September 30th (Exhibit A), does this maximum aggregate capacity refers to the volume capacity the manufacturer will be ABLE TO SHIP out of its facilities by September 30th of each year, the INSTALLED AGGREGATE capacity the bidder expects to have COMPLETED by September 30th of each year or the FUNCTIONING AGGREGATE capacity the bidder expects to have OPERATING by September 30th of each year? "Installed capacity" if responding to turnkey master contracts, or "shipped" under Equipment Procurement Schedule purchase by other entities or State.

3. Routine Maintenance and Stack Replacement costs (Exhibit A): Given that the five year warranty or service policy required by the RFB would cover yearly routine maintenance and stack replacement for the first five years if needed, can bidders build the "Average long-term

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operating and maintenance costs” based on operating figures from year 6 on? Specific timetable. **Already covered in amendment in Section 2.2.**

4. Equipment Procurement Schedule (Exhibit H): Although Exhibit H is intended to evaluate equipment prices from fuel cell manufacturers that the Authority may decide to purchase through a 3-5 year equipment only procurement contract, it still incorporate a number of line items (labor costs, specialized structural materials costs and other costs) typically associated with installed cost bids. Is the Authority looking for fuel cell manufacturers to address each line item in the Equipment Procurement Schedule, or would the authority be willing to consider and evaluate equipment bids that specifically address equipment related costs lie items in Exhibit H? **Clarified in RFB issued 12/17/01- complete applicable sections.**
5. Expected product mix for Authority purchases: Average size of installation (in KW or MW) impacts both the equipment cost as well as the installed cost per kW per project. Can the Authority provide any guidance over the expected average or median installation size for fuel cell projects to be implemented under this plan? **Cannot estimate at this time – assessment is still underway.**
6. Minimum Qualifications and Requirements for Bidders: Section 2.1 of the RFB states that to qualify as an eligible vendor, bidders must have placed in field applications fuel cell installations of 1 kW or larger. Few, if any, energy solution providers, ESCOs or contractors that may be interested in submitting a bid to the state have any first hand experience with fuel fells, given the very limited number of commercial fuel cell products available today. These solution providers, ESCOs or contractors, however, may bring significant experience in providing turnkey energy solutions with other generation technologies to state government facilities and may be able to deliver competitive turnkey fuel cell projects to state agencies and the Authority, when teamed-up with a fuel cell technology manufacturer. When evaluating turnkey bids from Energy Solutions Providers, ESCOs and/or contractors teamed-up with specific fuel cell technology manufacturers, is the Authority willing to consider the combined qualifications of the Energy Solutions Provider, ESCO or contractor as well as the fuel cell installation experience brought to the team by fuel cell manufacturer?
Yes, and all suppliers and their subs must offer verifiable experience at what they intend to provide.
7. Evaluation of Combined Heat and Power (CHP) capabilities: Section 2.2 states that fuel cells capable of CHP applications will be strongly preferred. There is a broad range of CHP applications that may be available for a specific fuel cell technology, and the costs of integrating a specific CHP solution (i.e. absorption chillers) vary greatly from facility to facility. Given this scenario, how does the Authority intend to evaluate potential CHP applications proposed by bidders? **List all possibilities. The RFP will be used to determine the best application at each site.** Should bidders supply indicative pricing solely on the additional hardware needed to recover the heat for a specific CHP application? **Yes.** Should a bidder supply indicative pricing for all CHP potential offerings that can be coupled with a specific fuel cell technology? **Yes.** Does the Authority expect that the indicative pricing for these CHP options be based on pricing for a specific project (unit pricing) or pricing for a large volume purchase? **Yes, you should project at what price and volume ratio.** How many sets of specific CHP hardware does the Authority expect to purchase over the life of this contract? **Unknown.**

1. Regarding 3rd paragraph under 1.1 Overview: does this mean that part 1 applies to eligible fuel cell system vendors (Exhibit A) and part 2 applies only to vendors of components (Exhibit H)? Must both complete the proposal in its entirety, including Exhibit H, which is not referenced in the RFB text? Also, if the Authority wishes to purchase turnkey systems why would it want to buy separate components, for its warranties could be impacted? **Clarified in Section 2.2, page 6. Second part: other public entities may purchase off of an equipment schedule**

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and the State wants to evaluate all possible options.

2. Regarding Page 3 1st paragraph and elsewhere: if a vendor cannot sell systems in 2002 (or 2003) must they bid now or can they wait a year (or two) to bid systems for delivery in 2004 or 2005? **Bid now, projecting when they can deliver and under what terms.** Also, what is the meaning of “in the first year” in line 2? I.e. can a bidder’s price for installations in 2004/2005 be adjusted upward from that supplied in the response to this solicitation without jeopardy? What if the first year is later e.g. 2003 or 2004? **Clearly, the intent is to see prices reduce over time and with volume commitments. Price only those years you can deliver and at what capacity and terms. For future RFP responses then, bid prices shall not exceed the prices quoted in any term under capacity originally bid in RFB. If in future responses capacity requested is below the original indicative price, it should be according the volume by price ration originally quoted in RFB.**
3. Regarding 1st paragraph under 2.1 and elsewhere: for installations in 2003 and beyond we have not finalized our installation team. Even if we fully were able to identify our team presumably the Authority would not have a problem with changes that may become necessary to the team. With this in mind we presume we should respond with information that is known at this time and items that are undecided should be so indicated. Is this acceptable? **YES.**
4. The second part of the 4th paragraph in 2.1 could mean that for every award made by the State we should commit to make available another system to other customers in California. It could also mean that an amount equal to the capacity/units we commit to make available to the State in this proposal (which the State is not committed to purchase) should be committed to other customers in California. Which is the correct interpretation? **This reference is no longer applicable and came from language in an early draft version that is no longer included.**
5. The 3rd bullet under Para. 3.3.6 asks for type and manufacturer of each major balance of plant component. What level of detail are you seeking? Can we assume that “balance of plant” means components not normally included in the fuel cell system, and you do not need details for system components that are normally skid mounted? **Yes.**
6. No reference in the RFB text is made to Exhibit C. Are bidders expected to complete Exhibit C? **This is there only for your information as to our evaluation checklist.**
7. Apart from California content what are the evaluation criteria? **Exhibit C provides an information only checklist for evaluation at this stage and each section referenced provides detail on what has been asked. Respondents will be evaluated and grouped by size, technology, capacity, price, experience, contract and financial capacity, terms/conditions/costs of warranty and service agreements, and references. The evaluation is intended to be inclusive with detailed evaluation and scoring criteria then determined for RFPs, including CA preferences.**

Does the Authority have a Standard Agreement with terms and conditions that apply to the procurement of the fuel cell systems? **There will be boilerplate terms included in the RFP stage.**

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8. If so, and to assess whether they may impact our bid, will the Authority make any such terms available to bidders? **It will in the next stage.**
9. If we plan to use local contractors to support our engineers during installation of the fuel cell systems, do we have to identify in our bid the specific contractors, especially in later years? **No, but those you know you intend to use, you should identify now.**
10. What price does the State currently pay for electricity and how does the Authority expect that price to change over the next four years? **The State pays tariff rates (RFB Section 2.2). We make no price projections for the state in relation to this RFB.**
11. Regarding section 5.2: since the RFB is on the website what constitutes an addendum and what constitutes a vendor who has received the RFB? **Addenda will be identified specifically as such and provided to known potential bidders directly as well as through the website.**

Page 1, Para 3

My understanding is this RFB allows the Authority (or other public entities) to either buy a turnkey system OR just the equipment. Is this correct?
Yes.

Page 21, Exhibit G

"The bidder must possess a valid contractors license" How does one go about obtaining this license? **Contractor's State License Board. (1-800-321-CSLB or www.cslb.ca.gov)** How do I find out who might have such a license so that our company might work through them? **List of attendees from Bidder's Conference can be obtained by request to Tara.Dunn@dgs.ca.gov or at (916) 651-9750.** I assume this license is needed to install the fuel cell system (i.e. we would not need this license if we were just supplying equipment). Is this correct? **The State or local jurisdiction of the host site will determine applicable licensure required. In general, prime turnkey vendors will need a CA Contractor's License and any subcontractors will require the applicable licenses for their trades in CA.**

Page 22, Exhibit G

"Provide to the Procurement Division a payment bond on Standard Form 807" Obtain **from Contractor's State License Board; and applicable to RFP stage.**

Page 23, Exhibit H

My understanding is that this exhibit is to be used if the State wants to purchase equipment only (i.e. not a turnkey installation) (ref: pg 1, Para 5). If this is the case, why do we supply "Installation" hourly rates when there is no installation involved? Why do we have to separate out the costs? (For example, the Authority would not buy a Warranty without buying the Equipment.) Can we supply just the fuel cell equipment? I.e. not the installation, Not the switchgear equipment, not the structural materials, etc. **Already addressed above.**

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Is it possible to remove or revise the UL listing requirement portion of the RFB? The rationale for this question is that third party certification is usually covered by the NEC (where they specify certification by an NRTL [Nationally Recognized Testing Lab]) and not usually specifically listed by company name. If the RFB proceeds without modification, it will prove to be more restrictive than the NEC because it calls out specific agencies (eliminating others like CSA and AGA). As well, the RFB as drafted requires every component to be designed and installed using only components that are UL or ETL listed. Usually it is the entire unit that is certified vs. every single component. However, following my last email, we have considered revisions to the questions I asked. The original question stated, "Is it possible to remove or revise the underlined portion of the RFB (listed above)? Another way to resolve this issue could be to modify the following language from the RFB:

" Description of compliance with applicable codes, including:

-- ANSI Z21.83

(fuel cell performance and safety

-- NFPA 853

(fuel cells near buildings)

-- NEC/NFPA 70, Article 692 (electrical

components)

-- UL 1741

(inverters and controllers"

We suggest changing the above wording to "examples of applicable codes and standards include:" The rationale for this is that:

a) These codes and standards are evolving as we speak (Decembers CSA meeting should formalize 4 new CSA draft standards); and b)

Any NRTL will use additional standards in certifying the system i.e. hydrogen sensors, software etc. Therefore, it' may be difficult to try and identify all of them (that could be left to the NRTL's engineering judgement.) Finally, should I raise these questions and all the points from my memo at the Bidders conference or have both the questions and comments been taken into account? **We prefer that systems and assemblies be UL listed; otherwise submit information that would allow us to assess and evaluate (including when you anticipate certification) and certification and testing requirement substitute. Refer to bid version 12/17/01 for clarified language, Exhibit B.**

What will be the funding source used for equipment purchases directly by the Authority? Are such funds currently available? **Undetermined yet – potentially revenue bonds for state building projects and other sources determined by local public entities.**

The RFB assumes that volume purchases that will drive down costs. Assuming prices are quoted on the basis of anticipated volume, what mechanism will be used to assure that such volumes materialize? **A contract.**

The RFB indicates that the RFB will be used for two possible purposes – one to create a list of eligible vendors and the other to create an equipment procurement schedule. Has it been determined if the RFB will in fact be used for both purposes – or just possibly one or either purpose? **Both.**

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The fuel cell system that would be the subject of the upcoming "bid" and subsequent "proposals" is branded with XXXXXXXX (current private corporate branding) label. It is manufactured and - in this case - marketed by XXXXXXXXX company. Would XXXXXXXX company and its fuel cell system remain on the qualified bidders list if the brand on the system was changed from XXXXXXX to XXXXXXX (some other brand from a buy-out presumably)?" **The system would be the same; original XXXXXX company would remain the proposer, vendor and service provider. Only the label would change. As long as the product doesn't change, no need for re-evaluation. If product changes, we would need to re-evaluate.**